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ABSTRACT

This five part document outlines the growth of educational research and development (R&D) during the past decade, provides an introduction to the Stanford Center and its work, and comments on both the accomplishments and the problems of educational R&D. Part one defines the function of the Stanford Center and the rationale for its mission in teacher education. Part two describes the national network of R&D institutions which consists of R&D Centers and Regional Educational Laboratories. Part three discusses a) the reasons for the sudden growth of R&D institutions, b) how they reflect social pressures and problems, and c) difficulties which stem from inadequacies in the educational system itself. Part four delineates eight essential elements of a comprehensive R&D program. Part five presents several examples of educational R&D work at the Stanford Center including the following programs: (a) Teaching Effectiveness; (b) Environment for Teaching; (c) Teaching and Linguistic Pluralism; and (d) the Urban/Rural Leadership Training Institute. Part six discusses the results of a decade of educational R&D. (Author/JS)

STANFORD CENTER
FOR RESEARCH AND DEVELOPMENT
IN TEACHING

Occasional Paper No. 1

EDUCATIONAL RESEARCH AND DEVELOPMENT: A NEW FORCE

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School of Education
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Introductory Statement

The Center's mission is to improve teaching in American schools. Its work is carried out through three research and development programs--Teaching Effectiveness, The Environment for Teaching, and Teaching and Linguistic Pluralism--and a technical assistance program, the Stanford Urban/Rural Leadership Training Institute. A program of Exploratory and Related Studies includes smaller studies not included in the major programs. The ERIC Clearinghouse on Information Resources is also a part of the Center.

This paper outlines the growth of educational research and development during the past decade, provides an introduction to the Stanford Center and its work, and comments on both the accomplishments and the problems of educational R&D.

EDUCATIONAL RESEARCH AND DEVELOPMENT: A NEW FORCE

Robert N. Bush

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A relatively new building, completed in 1972, has taken its place on the Stanford landscape at the corner of Galvez Street and Alvarado Row. It is adjacent to the new Law School and together with the Meyer Undergraduate Library and the Bookstore forms a new university quadrangle.

The sign over the entrance reads "School of Education -- Stanford Center for Research and Development in Teaching." What goes on in that building is, I am afraid, more of a mystery to the members of the community than those of us who work there would like to admit. But it is part of one of the most significant developments in education in recent times, and it is likely to have far-reaching effects for the improvement of education everywhere.

Preparation for this lecture has been frustrating because there is so much to tell. I shall speak first about educational research and development, what it is, and why it has appeared on the educational scene. Secondly, I will give some examples of the kind of work we are doing; and finally, I shall comment on the accomplishments of R&D and some of its current problems. If time permits, I will show a 12-minute film on sex-role stereotyping as an example of one of the products of educational research and development.

Rationale for Our Mission

We have been in our new home for only two-and-a-half years, but as a Center we celebrate our tenth anniversary this next fall. What is

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Adapted from a speech given at the Tuesday Evening Lecture Series, Stanford University, March 11, 1975. The original presentation was followed by a film titled "Hey, What About Us?" dealing with sex-role discrimination, developed jointly by the Stanford Center for Research and Development in Teaching and the Far West Laboratory for Educational Research and Development.

educational R&D? At Stanford, we are a group of about 125 researchers and supporting staff working in a new $4 million laboratory with an annual budget of about $1.5 million, supported almost wholly from U. S. government funds. Our work is focused on the improvement of teaching in schools. This is our mission.

That mission rests on a few simple propositions. The argument runs this way: Teaching is of fundamental importance in schools. If the teaching is right, many other elements can be missing in the school. If the teaching is not right, then all of the other elements, however strong, may be rendered ineffective. Teaching is not the whole of the matter, but it is a critical, crucial ingredient in making education effective. We recognize, however, that not everything important that is learned takes place in schools; that not everything that is taught is learned; that not everything that is learned is the result of teaching; and that much that is taught is not always intended. Nevertheless, we are convinced that learning takes place much faster and better when the teaching is effective. Therefore, given the urgency of the times, we can no longer afford the luxury--if indeed we ever could--of amateurish or ineffective teaching.

The Educational R&D Network

So much for the argument supporting the mission of our Center. Others are at work on other aspects of education. A network of R&D institutions, new organizations in the educational world, has been established in the U. S. in the last decade. This network consists of two kinds of institutions: R&D Centers and Regional Educational Laboratories. R&D Centers, ten of them, each located in a university, each working on a different mission, are located across the country. For example, the University of Wisconsin and the University of Pittsburgh are working on different aspects of learning. The University of Oregon is working on problems of administration in schools. Johns Hopkins University is dealing with the social organization of schools. The University of California at Berkeley is concerned with higher education. UCLA focuses on evaluation; Ohio State University on vocational and technical education; the University

of Texas on teacher education. These university-based centers are national institutions which heavily emphasize research, but not research as it has been traditionally practiced.

The network also contains some ten regional educational laboratories. These are set up outside the existing pattern of educational institutions, midway, as it were, between the university research community and the schools, and established as non-profit corporations. They were intended to serve a middleman function in meeting the educational needs of a region: developing, testing, and disseminating new educational products, bridging the gap between theory and practice, and bringing the results of educational research more rapidly into the schools. There are three such laboratories in the West: the Far West Laboratory in San Francisco, the Northwest Laboratory in Portland, the Southwest Laboratory in Los Angeles. Research for Better Schools is the name of the laboratory in Philadelphia, Pennsylvania. Others include the Educational Development Corporation in Newton, Massachusetts; CEMREL, the regional laboratory in St. Louis; and the Appalachia Educational Laboratory in Charleston, West Virginia. The world map would show that following the U. S. example for the most part, similar kinds of educational R&D institutions are developing in Canada, Germany, Japan, Korea, Sweden, Russia, the Philippines, Thailand. Some beginnings may be found in Latin America.

Reasons for the Growth of R&D Institutions

Why have these institutions been formed? There are two different reasons. One reflects certain large social pressures and problems; the other, more immediate problems stemming from inadequacies in the educational system itself.

In the first instance, after World War II the pace of change in all parts of society began to accelerate at an unprecedented rate. Industrial productivity and agricultural output were burgeoning, but the educational system began lagging further and further behind. Unless this situation changed, it would be impossible to meet the revolution of rising expectations for a better way of life that a global system of communications had communicated to the poor peoples of the world. Genuine national concern for the improvement of the educational system began

in the United States in the 1950's after the launching of the Russian Sputnik and with the famous Brown vs. Topeka decision on segregation in schools. New and powerful societal forces began to press for the expansion of education and for increasing its quality and its productivity.

National educational leaders then noted that whereas American industry and agriculture had well-developed and financed research and development systems which fueled their constantly increasing productivity, education had almost none. Agriculture and industry invest 5 to 10 percent of their total expenditures in research and development. In education, the comparable figure is a small fraction of less than 1 percent. Education spends almost all of its funds in operating the system, almost none in systematic study and the fashioning of new ways to improve it. As a result, tested new methods have been scarce until recently. The time lag in education between the discovery of new knowledge and its widespread application in classrooms is estimated to be between 40 and 50 years. In industry and agriculture, it ranges from three to five years. Industry and agriculture have a long tradition, reflected in engineering and in agricultural experimental stations and field agents, which provides a bridge between the theoretical knowledge in the scientific fields of biology, physics, chemistry, and agronomy and the practical problem solvers and decision makers in industrial production and farming. A complex system of relationships and institutions encourages the invention and development of new products and their installation in the factories and the farms. Any such pattern was, until recently, almost totally lacking in the social sciences and in the educational system. Educational leaders reasoned that if education could develop an R&D system, it might begin to catch up by improving its efficiency and effectiveness.

In its simplest terms, educational R&D is merely an attempt to apply science to the solution of educational problems. The scientific approach to educational problems is a phenomenon largely of this century, a short time in historical perspective. Even so, the results of educational research have been disappointing in their effects upon educational practice. Several reasons can be identified. The effort has been too

small, the trained researchers too few, the resources too limited. Efforts have been too fragmented; research has been directed to small, isolated parts of the total system, the methodologies and the samples have been so diverse that there could be little cumulative effect. The methods unduly copied designs from the natural sciences and were often inappropriate for the problems under consideration. Most educational research was done by individual professors and a few graduate students, working in isolated, doctoral-dissertation-sized chunks, whose results were soon filed only to gather dust on the university library shelves.

Essential Elements of Educational R&D

The new R&D system is attempting to remedy some of these difficulties. The essential ingredients, the concepts and practices, that educational R&D has been trying to develop may be summed up as follows:

Systems approach. An overarching feature of an R&D effort in education is its attempt to be comprehensive and to consider all elements in the total system.

Critical mass. Successful R&D is able to assemble a "critical mass" of talent that makes possible the solution of complex problems.

Interdisciplinary team. Most important educational problems require the full power of many relevant disciplines--psychology, sociology, anthropology, economics, political science, law, and medicine. R&D institutions are attracting interdisciplinary teams and providing them with a congenial working environment.

Design and field test. The heart of an effective R&D effort is the design and field-test stages of the work. Drawing upon both basic and applied research, the staff engages in the creative task of inventing a new solution to a problem, designing a new educational product, creating a new model. It then tries out that model, first in a limited field setting, using rigorous tests as to how well it works, then later in more normal settings. The model or product goes through as many tests and revisions as necessary to reach acceptable levels of performance. All this may be quite expensive. But it is a critical step, typically absent in the past in many commercially produced educational products.

Dissemination and installation. The process is not considered complete until the product has been installed and made to work successfully in one or more practical settings. Further, it is also necessary to see that the idea is then made widely known to potential users.

Continuous feedback and revisions. A desirable feature, not yet fully realized, is feedback from users, so that a product can be further modified or even withdrawn if it begins to work badly or if it produces unanticipated undesirable effects.

Focus on a mission. An effective R&D effort does not dissipate its energies by trying to do everything. It concentrates upon accomplishing a well-defined mission, with explicit objectives which require specific programs and projects.

Visibility and accountability. For the astronauts, the task was clear: they either got to the moon or not. Clearly stating what the mission is and then following all the necessary steps gives a high degree of visibility, which in turn imparts a high degree of accountability to R&D institutions.

Educational R&D at the Stanford Center

Let me now turn to a few examples of educational R&D work at Stanford. Typically, teaching takes place in one of five basic modes:

1. Large groups of 50 to 500 or more.
2. Regular classes of 20 to 40 students.
3. Small groups of 5, 10, or 15 students.
4. Tutorials, where the instructor works with an individual pupil.
5. Machine teaching, where the pupil interacts with a piece of technology.

The Stanford R&D Center provides a laboratory for studying teaching in these different modes. In our large group instruction room, students are provided with response panels which they can use to give the instructor feedback about a lecture. This is a push-button system very much like that on the newer telephones. Depending upon the pedagogical experiment under way, the teacher can ask the students to respond when

they are puzzled or unclear, or when they disagree. The teacher can give an examination question at any point during the lecture to determine whether students have understood what has been taught thus far. The results can then be immediately displayed upon a panel at the lectern, so that the results can be noted by the teacher and also stored in a computer for later analysis. An alternative is for a lecture to be videotaped and projected on screens, so that the lecturer need not be present. Or a lecture may be videotaped and students may then go to individual carrels, avoiding the large lecture hall altogether. There they may call up the lecture when they wish, and review it as many times as necessary. Which approach works best? Which is most efficient? We are studying the processes of improving large-group teaching, finding out which of the different modes are most effective. The technology of this auditorium also makes possible instantaneous translation in three languages, since our work is international as well as interdisciplinary.

The flexible teaching laboratory on Level Three of the R&D Center is a place where different-size classrooms can be configured and linked to a computer and to remote-control television cameras so that complete records of student-teacher interaction can be made, in the same way as in the large group instruction room. In addition, we have provision for one-way mirrors so that teachers in training can unobtrusively observe how regular classes, small-group teaching, or tutorials are conducted and can discuss the various alternatives as they unfold. Also available are cubicles or carrels where students may come at their convenience and interact with programmed materials in the form of 15 to 20-minute lessons. We are attempting to find out what the new technology is best used for, what human teachers can best do in these various-sized groups, hopefully discovering how to take much of the routine load from the teacher and free him or her to work with individual pupils in small groups, genuinely personalizing and individualizing education. To produce training materials, the laboratory contains a film and TV studio. It also has a sophisticated information retrieval system and a computer which makes possible the development and analysis of Computer-Assisted Instruction (CAI) programs.

We have four major programs at the Center. In the Program on Teaching Effectiveness, directed by Dr. N. L. Gage, the psychologists predominate. The second is the Environment for Teaching Program in which Dr. Elizabeth Cohen and members of the faculty of Sociology are the main participants. There is also an area for which we haven't found a good name, until recently called Teaching Students from Low-Income Areas, which emphasizes the teaching of "disadvantaged" and minority students, those who have in the past been less well served by the schools. In this area we have two programs. Teaching and Linguistic Pluralism, under Dr. Robert Politzer, includes linguists who are particularly concerned with the problems of teaching and learning of students who come from bilingual and bidialectal backgrounds. The Urban/Rural Leadership Training Institute, under R. P. Mesa's direction, is a program in which we are working in 26 of the poorest communities in the United States, both urban and rural, attempting to apply the results of work from this Center and elsewhere in training and retraining teachers, paraprofessionals, and other educational personnel in those districts.

The Program on Teaching Effectiveness consists of four essential parts. First, Professor Gage and his colleagues are attempting to define the nature of effective teaching: what skills and strategies are required for effective teaching in each of the different modes--large groups, regular classes, small groups, and so on. Secondly, the program is developing procedures for training new teachers and retraining old teachers in specific skills and strategies that have been identified. The program then takes the most crucial step: attempting to determine whether more and better student learning takes place when teachers use these skills and strategies. This vital link has been missing in much of the research of the past on teaching and teacher education. In this part of the work we sometimes bring students into the laboratory, where we can better control conditions and record results. At other times we go out to study teachers in regular classrooms. The Center facilities are designed so that vans may readily take videotapes and cameras into the schools and return with data for analysis.

The fourth step in the process consists of putting the results of these experiments into forms which can be widely used in teacher training institutions and in school districts engaged in in-service education. Here we draw upon our earlier work in defining technical skills and in microteaching, in which the trainee practices the skills by teaching a small group of students for a limited time. A videotape of the lesson is immediately played back to the trainee, who, after a critique by a supervisory team, reteaches the lesson to another group until a given level of performance is reached. This technique was developed at Stanford and is now used widely in over 75 percent of the teacher training programs in the U. S. and in many places abroad. We are currently attempting to summarize our experience of the last ten years by building a Systematic Teacher Training Model which should be ready for initial field testing and distribution by the end of the year.

One interesting feature of the work of this and other programs in the Center is our inclusion of teachers in the schools as partners in our research and development work. To quote one our distinguished friends and advisers, Ernest Hilgard, "Research should not belong exclusively to trained researchers. Many inventive practices are developed by teachers on the job, and if teachers are to be asked to adopt research in their practice, they ought to contribute to both the research and the practice, and their contributions should be recognized."[1] One serious defect in the old system was that the university was considered to be the producer, and the school the consumer, of research. Unfortunately, this pattern did not work satisfactorily for a variety of reasons: partly because the research was not useful, partly because it had not been translated into a form that was helpful, and partly because the users had not been adequately considered in the designing of materials. This situation is now changing, so that teachers participate from the very beginning in the conceptualization of the problem, in the design of the new materials and methods, in

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[1]Ernest R. Hilgard, "The Translation of Educational Research and Development into Action," Educational Researcher, Vol. 1, No. 7 (July 1972), p. 21.

he interpretation of the results of field tests and other research, and in helping with the installation and feedback process.

We early developed a program called the Environment for Teaching as a necessary component of any well-rounded system. Traditional methods of teaching are so deeply rooted and of such long standing that it does little good to devise better ways of training teachers in better ways of teaching if they are then placed in traditional environments. Under such circumstances, without a more supportive environment, the new training is soon lost and the teachers quickly revert to old ways of teaching. Consequently, under the leadership of Professor Cohen, Dr. Terrence Deal, and Professors Sanford Dornbusch, John Meyer, and Richard Scott of the Sociology department, we are considering what kinds of environments will support more effective teaching.

I will comment briefly on only two aspects of current work in the Environment for Teaching program. One relates to the evaluation of teaching; another emphasizes the importance of organizational features that can be adopted to make schools more effective without necessarily increasing costs.

Growing out of theoretical work and research in a variety of institutions--prisons, hospitals, colleges--Professors Scott and Dornbusch have set forth the proposition that without a strong and effective evaluation system an organization does not function very well. Their studies, now being applied to education, show that schools have a weak evaluation system. The program has developed a manual for a new system for evaluating teaching, built on the idea of peer evaluation, that is, teachers evaluating other teachers. We are now holding workshops, some at the Center, some out in the schools, to field test the procedures. Under the direction of Dr. Susan Roper, preliminary results appear promising. Teachers' organizations are quite interested. They are not satisfied with current evaluation systems. Indeed, almost no one is. It appears that we may be on the verge of important new ways to strengthen the evaluation system for teaching in schools.

Under Dr. Terrence Deal's leadership, a second line of work in the field of organizational development, also rooted in sociological theory

and research, is investigating why so many educational innovations fail to improve the schools and are abandoned. Organizational theory suggests the explanation that in such instances the structure, the formal organization of the school, may not be congruent with the nature and complexity of the innovations attempted. The program has a longitudinal study under way in 34 Bay Area schools to test this proposition. In the meantime, the Center team is at work with the school administrators of the state to develop a survey-and-feedback approach to organizational problems. They have developed a manual and set of procedures whereby a school system can determine how its current organizational structure is functioning and where changes can make it work better. Some interesting findings are beginning to emerge. For example, it seems that a change in the size of work groups, alteration of the criteria for evaluation, or shifts in communication patterns--all possible without increasing costs--can lead to more effective functioning. This work suggests that there are many hidden costs in schools as they are now organized. Such work, aimed at increasing efficiency and effectiveness in schools, has far-reaching practical importance.

Professor Robert Politzer, a linguist, and his colleagues in the Program on Teaching and Linguistic Pluralism are at work constructing tests to measure more adequately than is now possible the total language ability of bilingual students (Spanish and English) and bidialectal students (Black standard and nonstandard English). Conventional tests discriminate against these pupils; as a result, false impressions concerning their capabilities, in learning to read, for example, are conveyed to teachers, to the students themselves, and to their parents. Having developed these tests, the next step in the program is to work with teachers in administering them to their pupils, interpreting their meaning, developing teacher attitude scales to determine whether teacher attitudes change and, if they do, whether the children then begin to learn more. It is not difficult to sense the overriding practical importance of this line of work for helping children from bilingual or bidialectal backgrounds who have been experiencing serious learning problems out of proportion to their natural capacities.

The Urban/Rural Leadership Training Institute, working under the direction of R. P. ("Pete") Mesa, has a staff of about 20 persons, specialists in different aspects of education in poor communities, who are providing technical and developmental assistance to teachers, parents, paraprofessionals, and other school personnel in in-service training. This is an action-oriented program which attempts to apply directly the ideas, lessons, and materials developed at this Center and elsewhere in R&D institutions across the country. These communities are scattered throughout the country, from a small rural Indian reservation in the Northwest, to urban Black ghettos in New York and Chicago, to poor white rural Appalachian sites, to schools in both urban and rural Southwest locations where the dominant language is Spanish.

The above is enough, perhaps, to give some flavor of the kind of work under way at the Stanford Center for Research and Development in Teaching. Additional efforts are taking place in the other educational R&D institutions.

Educational R&D is a team effort and would not be possible without strong institutional support services. The work of our researchers could not be done without the dedicated and competent staff of technical services personnel who constitute over half of our total number. Such job titles as editor, documentarian, writer, stenographer, clerk, statistician, keypunch operator, engineer, artist, photographer, and computer programmer illustrate the range. A national network of information retrieval and dissemination for educational R&D is strongly represented at Stanford by the ERIC Clearinghouse on Information Resources, directed by Professor Lewis B. Mayhew. We have a research methodology section, directed by Professor Rosedith Sitgreaves; a media services operation under David P. Rubin's direction; and a publication and dissemination section under the direction of Bruce Harlow.

While most of the researchers are regular members of the university faculty who devote only part-time to the Center, we have a number of key full-time researchers who make a pivotal difference in our work. A unique and most important feature of our Center are the approximately 40 half-time junior researchers who are also pursuing Ph.D. degrees in various fields. Their graduate training is greatly enriched by their

participation in serious research on important educational problems. Frequently their doctoral dissertations are an integral part of Center work. Over the decade more than 150 have graduated and are now carrying out educational R&D work in many places. They may turn out to be one of our most important educational products.

Results of a Decade of Educational R&D

I now turn to some summary comments concerning the results of our effort during the past decade to begin to build an educational R&D system. How well is it working? My conservative answer is that the case for educational R&D is promising--but not fully proven. Obviously the millenium has not arrived. The educational system has not been dramatically transformed in the past 10 years. This should not be our expectation, but some significant beginnings can be seen. Before mentioning these and thus concluding on a positive note, attention should be drawn to some of the difficulties encountered while we have been trying to put an educational R&D system in place.

The original expectations for educational R&D soared too high, partly as a result of exaggerated claims by early proponents. Partly in view of the urgency of the need, there has been a frantic grasping at any possible remedy for worsening educational conditions, especially in developing areas of the world. This condition was exacerbated by the pressure, long-standing in American society, for instant results, and the corresponding tendency to pull up the educational R&D "plant" at too frequent intervals to inspect its roots and assess its growth. This has not helped the new plant to mature and bear fruit. We need to recognize that "dramatic breakthroughs" bringing about far-reaching, immediate educational change, such as penicillin did in medicine, should not be expected. The educational system is too large, too complex, too deeply rooted in cultural tradition and has been too long in the making for it suddenly to change its character. Inertia is very strong. Fundamental change is inevitably slow. Then, too, the reward for educational change is not so direct as when a farmer sees, almost certainly, that if he uses the new seed corn or practices a new form of cultivation his crop yield will be great and hence his profit will be greater.

Progress has also been slower than anticipated because the accumulated scientific base upon which to build turns out to be much more meager than it was in agriculture and industry at the beginning of their research and development efforts. Furthermore, the original plan for funding on a gradually increasing scale has not been realized. Missions and programs that were based upon an anticipated level of funding have too often faced decreased and erratic appropriations by spending agencies. Had similar conditions prevailed with our mission to the moon, we certainly would never have reached the goal.

In spite of these problems, promising signs of improvement can be noted. As a result of a decade of substantial increase in educational research and development and in attempts to apply social science to the study and improvement of educational problems, some positive and important results may be noted.

In the first place, the monolithic structure of the school system, which attempted to cast everyone into a common mold, is giving way to a greater recognition of differences among individuals and of groups. True, this has partly been the result of powerful social forces that are moving the whole society. But our educational institutions would have been unable to respond to these social forces had not the educational R&D community produced materials and procedures that enabled school systems and teachers to begin successfully to offer more pluralistic and alternative programs. An increasing array of new, imaginative, and tested products is beginning to appear on the educational market. The Fourth Edition of the CEDaR Catalog, published in April 1974 (CEDaR is the acronym of the Council for Educational Development and Research, which is the national organization of educational R&D labs and centers) describes in its first volume 250 completed and available products, and in its second volume 162 anticipated products that will be available within a year or two.

The number of instructional packages available for classroom use that go beyond simple textbooks is mounting. So too, are the manuals, training systems, and other means for showing educational personnel how to use these products successfully. The number, variety, and quality of these products is significantly greater than was true ten years ago,

when the production of instructional materials was left almost solely to the private sector and to individuals working alone in colleges and universities.

Traditionally weak teacher-training practices are in process of significant reform. Teacher education is moving out from the relative isolation of college and university settings into the more practical and field settings of the "real" educational world. There is more emphasis in these new training programs on what the trained teacher can do than upon how many college credits he has accumulated. Powerful new training packages are increasingly becoming available for the development of the competencies that have been identified and validated by R&D efforts. The increasing flexibility of the educational system in responding successfully to the diverse needs of individuals and groups is beginning to be more firmly based in fundamental research about the different ways that individuals learn best and about the different kinds and styles of teaching which are accordingly most appropriate.

As a result of this increased attention to and funding for educational R&D, the educational and social science research community has shifted more of its attention to the need for reforming practices in the schools and toward the fundamental, felt needs of teachers, administrators, students, and laymen.

I believe that a good beginning has been made during this first decade. We now understand much better how to tackle the problem. If we will but keep up--and step up--the effort for two or three decades more, we may anticipate unprecedented improvements in the productivity and quality of our educational system. Remember, our agricultural and industrial R&D system began over a hundred years ago with the passage, during Lincoln's administration, of the Morrill Act, which provided for the formation of the great land-grant colleges. Education, too, needs more time to realize its potential.

Unfortunately, educational R&D is currently in trouble because the new structure that was created by the federal government to carry on the national educational R&D system, namely the National Institute of Education, is in trouble--I hope only temporarily. The reason does not

relate primarily to the achievements of R&D to date, but lies rather in the complicated difficulties of starting a new agency in the morass of Watergate and the shifting political sands that have surrounded us in recent months. It is tremendously important at this time for the educators and the citizens of this country to become better acquainted with educational R&D and its accomplishments so that they may inform the Congress and the administration of their judgments concerning the worth of educational R&D and the necessity for according it a high priority in the expenditure of federal educational funds in the period ahead.